

Surveys of vertebrate fauna in the Grampians National Park, 2003-2007

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Abstract

Surveys of vertebrate fauna in the Grampians National Park were carried out between December 2003 and March 2007. One hundred and fourteen species were recorded, including thirty mammals, seventeen reptiles, three amphibians and sixty-five birds. Four threatened species were recorded: Smoky Mouse *Pseudomys fumeus*, Heath Mouse *Pseudomys shortridgei*, Southern Brown Bandicoot *Isoodon obesulus* and Powerful Owl *Ninox strenua*. Smoky Mouse was found in two locations and the status of the species in the Grampians is discussed. The possible effects of drought and bush fires on populations of insectivorous bats also are discussed. (*The Victorian Naturalist* 125 (2) 2008, 47-55)

Introduction

The Grampians National Park covers 167 000 hectares and is located in western Victoria, approximately 225 kilometres west of Melbourne. The park is one of the most important crown conservation reserves in Victoria, with a wide range of vegetation communities that provide habitat for many vertebrates including a number of rare and threatened species.

The Fauna Survey Group (FSG) of the Field Naturalists Club of Victoria conducted five surveys of vertebrate fauna in the park on a voluntary basis between December 2003 and March 2007. The purpose of the surveys was to provide data for the land manager, Parks Victoria, on the distribution and ongoing presence of vertebrates, especially several threatened species known to exist in the park. These species include the endangered Smoky Mouse *Pseudomys fumeus*, the near threatened Heath Mouse *Pseudomys shortridgei*, the near threatened Southern Brown Bandicoot *Isoodon obesulus* and the endangered Long-nosed Potoroo *Potorous tridactylus* (DSE 2003). The data were to be used by the land manager to help implement threatened species conservation programs and to assist in the planning of ecological burning programs for the park. During the summer of 2005/2006 a wildfire burnt approximately 46% of the Grampians National Park. The FSG did not conduct post-fire surveys in areas burnt by this fire. However, the effects of the fire on vertebrates are discussed.

The park was visited on five occasions and surveys were conducted in several locations as follows:

- December 2003: southern Victoria Range and central Victoria Valley;
- March 2004: southern Victoria Range and southern and central Victoria Valley;
- March 2005: Mt William Range and central Wannon Valley;
- March 2006: central and southern Wannon Valley;
- March 2007: southern and far southern Victoria Valley.

Methods

Survey methods included Elliott trapping, Type A (Elliott Scientific Equipment, Upwey), cage trapping (standard bandicoot traps, Wiretainers Pty Ltd, Preston and RE Walters 1899 Pty Ltd, Sunshine), harp trapping (Ecological Consulting Services, Newport and Faunatech, Bairnsdale), funnel trapping (Ecosystematica Environmental Consultants, WA), spotlighting, active herp searching (rock and log turning and scanning possible reptile basking sites with binoculars), bird observation and general observation (chance sightings around campsites and along roads, road-kills etc.).

Age and Elliott traps were set in lines of ten, with 25 m between trap-lines. The distance between trap sites varied depending on the terrain. In difficult terrain, such as on the summit of Mt William, trap sites

were 10 m apart, whilst, in more open areas, such as Heathy Woodland, traps were spaced at 25 m. Baits for Elliott traps consisted of a mixture of quick oats, peanut butter and honey, whilst those for cage traps had sardines added to this mixture. Systematic reptile trapping was carried out on one occasion only, when funnel traps were used in March 2006. Funnel traps were set at five-metre intervals along a 30 cm high aluminium flywire drift fence that extended for 60 m. Bird observations were mostly incidental records obtained during trapping operations and around campsites and did not involve systematic bird censuses. Due to a lack of rain, intense searching for frogs was carried out only on one night in March 2006.

Overall, 2686 trap-nights were completed in eight Ecological Vegetation Classes (EVCs) (DSE 2004). These were made up of 1824 Elliott trap-nights, 754 cage trap-nights, 60 funnel trap-nights and 48 harp trap-nights. Fourteen spotlight hours were completed (Table 1).

Results

One hundred and fourteen vertebrate species were recorded during the surveys. These included 30 mammals (Table 2), of which 17 were eutherian, 12 marsupial and one monotreme. Twenty-five of the mammal species were native and five were introduced. One of the target species, the Long-nosed Potoroo, was not recorded during trapping sessions in Wet Heathland in the Victoria Valley and Wannon Valley.

The Smoky Mouse was recorded in Damp Forest (12 individuals) and in Lowland Forest adjoining Damp Forest (four individuals), in gullies on the south-eastern slopes of the Victoria Range. The Heath Mouse (Fig. 1) was found in Sand Heathland in the Victoria Valley (four individuals) and the southern Wannon Valley (six individuals) and in Heathy Woodland (one individual) in the far southern Victoria Valley. The Southern Brown Bandicoot was captured in Sand Heathland (one individual) in the central Victoria Valley and in Wet Heathland (two individuals) in the southern Wannon Valley.

The Agile Antechinus *Antechinus agilis* was the most common and widespread marsupial recorded and was found in every

EVC except Sand Heathland. The Yellow-footed Antechinus *Antechinus flavipes*, however, was captured on only one occasion, in Heathy Woodland in the central Wannon Valley. The Dusky Antechinus *Antechinus swainsonii* was recorded in Wet Heathland, Lowland Forest, Damp Forest, Heathy Dry Forest and Sand Heathland in the Victoria Range and Victoria Valley. The species was recorded in good numbers in Montane Rocky Shrubland on Mt William in 2002 (Menkhorst and Homan unpubl. data); however, none was captured there during the FSG trapping session in March 2005. Several individuals of the pale form of Dusky Antechinus were captured in the far southern Victoria Valley in March 2007. The Swamp Rat *Rattus lutreolus*, the only native member of this genus found in the Grampians (Menkhorst 1995), was recorded in Lowland Forest, Damp Forest, Sand Heathland and Wet Heathland in the Victoria Range, Victoria Valley and southern Wannon Valley.

Nine species of insectivorous bats were recorded during the surveys. The best sites for bat captures using harp traps occurred in Lowland Forest and Heathy Woodland, and consequently most records came from these EVCs. The Eastern False Pipistrelle *Falsistrellus tasmaniensis* (front cover), an uncommon species in western Victoria that shows a preference for riparian areas (Menkhorst 1995), was captured at one site only in the central Wannon Valley, where a harp trap was placed over a narrow section of the Wannon River. The Sugar Glider *Petaurus breviceps* and Common Brushtail Possum *Trichosurus vulpecula* were both recorded in Heathy Woodland in the Wannon Valley, whilst the Common Ringtail Possum *Pseudocheirus peregrinus* was found in Lowland Forest in the Victoria Range and Heathy Woodland in the central Wannon Valley. The Koala *Phascolarctos cinereus* was recorded once only, in Lowland Forest in the Victoria Range. The Western Grey Kangaroo *Macropus fuliginosus* was seen only in the western survey areas in the Victoria Valley.

Seventeen reptiles were recorded (Table 3), including one gecko, eleven skinks and five elapid snakes. The majority of active reptile searching took place in the Victoria

Table 1. Survey methods, trap-nights and spotlight hours (effort) completed for each Ecological Vegetation Class (EVC).

EVC	Elliott	Cage	Funnel	Harp	Spotlight Hours
Heathy Dry Forest	50	90		4	2
Lowland Forest	260	30		18	2
Damp Forest	370				
Sand Heathland	240	270			
Wet Heathland	30	306			
Heathy Woodland	490		60	24	10
Montane Rocky Shrubland	284			2	
Shrubby Foothill Forest	100	58			
Total Effort	1824	754	60	48	14

Table 2. List of mammals and total numbers recorded during surveys. E = estimated numbers; * indicates introduced species.

Common Name	Scientific Name	No.
Short-beaked Echidna	<i>Tachyglossus aculeatus</i>	7
Yellow-footed Antechinus	<i>Antechinus flavipes</i>	1
Agile Antechinus	<i>Antechinus agilis</i>	63
Dusky Antechinus	<i>Antechinus swainsonii</i>	26
Southern Brown Bandicoot	<i>Isoodon obesulus</i>	3
Koala	<i>Phascolarctos cinereus</i>	1
Common Brushtail Possum	<i>Trichosurus vulpecula</i>	8
Sugar Glider	<i>Petaurus breviceps</i>	6
Common Ringtail Possum	<i>Pseudocheirus peregrinus</i>	2
Eastern Grey Kangaroo	<i>Macropus giganteus</i>	20E
Western Grey Kangaroo	<i>Macropus fuliginosus</i>	20E
Red-necked Wallaby	<i>Macropus rufogriseus</i>	10E
Black Wallaby	<i>Wallabia bicolor</i>	6
White-striped Freetail Bat	<i>Tadarida australis</i>	3
Gould's Wattled Bat	<i>Chalinolobus gouldii</i>	5
Chocolate Wattled Bat	<i>Chalinolobus morio</i>	95
Large Forest Bat	<i>Vespadelphus darlingtoni</i>	15
Southern Forest Bat	<i>Vespadelphus regulus</i>	6
Little Forest Bat	<i>Vespadelphus vulturinus</i>	74
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	7
Lesser Long-eared Bat	<i>Nyctophilus geoffroyi</i>	58
Gould's Long-eared Bat	<i>Nyctophilus gouldii</i>	7
House Mouse *	<i>Mus musculus</i>	1
Smoky Mouse	<i>Pseudomys fumeus</i>	16
Heath Mouse	<i>Pseudomys shorridgei</i>	11
Swamp Rat	<i>Rattus lutreolus</i>	22
Red Fox *	<i>Vulpes vulpes</i>	2
House Cat (Feral) *	<i>Felis canis</i>	4
Goat (Feral) *	<i>Capra hircus</i>	1
Red Deer *	<i>Cervus elaphus</i>	2

Valley in Heathy Dry Forest amongst rocky outcrops with many fallen logs. In this habitat numerous species were found, including Southern Water Skink *Eulamprus tynpanum*, White's Skink *Egernia whitii*, Delicate Skink *Lampropholis delicata*, Garden Skink *Lampropholis guichenoti*, Boulenger's Skink *Morethia boulengeri*, Coventry's Skink *Niveoscincus coventryi*, Stumpy-tail Lizard *Tiliqua rugosa*, Little Whip Snake

Parasuta flagellum (Fig. 2) and Eastern Brown Snake *Pseudonaja textilis*.

The Southern Water Skink, which is widespread over much of southern Victoria (Cogger 2000), was also seen basking in Montane Rocky Shrubland in the Victoria Range and on Mt William. The Black Rock Skink *Egernia saxatilis* was seen basking also at these two locations. The arboreal and rock-inhabiting Spencer's Skink *Pseudemoia spenceri*, which reaches



Fig. 1. Heath Mouse *Pseudomys shortridgei*. Photo by Peter Homan.

the western limits of its range in the Grampians (Wilson and Swan 2003), was found on only one occasion, near the summit of Mt William. The Eastern Three-lined Skink *Bassiana duperreyi* and the Blotched Blue-tongued Lizard *Tiliqua nigrolutea* were both captured in funnel traps in Heathy Woodland in the central Wannon Valley. The White-lipped Snake *Drysdalia coronoides* was recorded on three occasions in Heathy Woodland in the central Wannon Valley and once in Heathy Woodland in the far southern Victoria Valley. The Lowland Copperhead *Austrelaps superbis* was found in Heathy Woodland in the central Wannon Valley and Heathy Dry Forest in the Victoria Valley, whilst the Tiger Snake *Notechis scutatus* was found in Lowland Forest in the Victoria Valley and Heathy Woodland in the southern Wannon Valley. The Marbled Gecko *Christinus marmoratus* was recorded once in Heathy Woodland in the Wannon Valley.

Three species of amphibians were recorded (Table 4). Several Southern Brown Tree Frogs *Litoria ewingii* and Southern Bullfrogs *Limnodynastes dumerilii* were found crossing a road during rain in Heathy Woodland in the central Wannon Valley in March 2006. The Common

Froglet *Crinia signifera* was also recorded in this EVC and was heard calling in Wet Heathland in the Victoria Valley.

Sixty-four species of birds were recorded (Table 5). Two species were recorded as breeding in the park. These were the vulnerable Powerful Owl *Ninox strenua* (juvenile bird seen on road in Heathy Dry Forest in the Victoria Valley in December 2003) and the White-browed Scrubwren *Sericornis frontalis* (dependent young in Heathy Dry Forest in the Victoria Valley in December 2003). The Powerful Owl was also recorded from Lowland Forest in the Victoria Valley, where one bird was heard. Most bird records came from the vicinity of FSG campsites in Heathy Woodland in the central Wannon Valley and in Heathy Dry Forest and Lowland Forest in the Victoria Valley. In the central Wannon Valley these included Southern Boobook *Ninox novaeseelandiae*, Azure Kingfisher *Alcedo azurea*, Eastern Yellow Robin *Eopsaltria australis*, Striated Pardalote *Pardalotus striatus*, Weebill *Smicronis brevirostris* and New Holland Honeyeater *Phylidonyris novaehollandiae*. In the Victoria Valley species included Eastern Spinebill *Acanthorhynchus tenuirostris*, Golden Whistler *Pachycephala pectoralis*, Grey Shrike-thrush

Table 3. List of reptiles and numbers recorded during surveys.

Common Name	Scientific Name	Number
Marbled Gecko	<i>Christinus marmoratus</i>	1
Eastern Three-lined Skink	<i>Bassiana duperreyi</i>	8
Black Rock Skink	<i>Egernia saxatilis</i>	7
White's Skink	<i>Egernia whitii</i>	8
Southern Water Skink	<i>Eulamprus tympanum</i>	27
Delicate Skink	<i>Lampropholis delicata</i>	1
Garden Skink	<i>Lampropholis guichenoti</i>	11
Boulenger's Skink	<i>Morethia boulengeri</i>	1
Coventry's Skink	<i>Niveoscincus coventryi</i>	3
Spencer's Skink	<i>Pseudemoia spenceri</i>	1
Blotched Blue-tongued Lizard	<i>Tiliqua nigrolutea</i>	1
Stumpy-tail Lizard	<i>Tiliqua rugosa</i>	1
Lowland Copperhead	<i>Austrelaps superbus</i>	3
White-lipped Snake	<i>Drysdalia coronoides</i>	4
Tiger Snake	<i>Notechis scutatus</i>	3
Eastern Brown Snake	<i>Pseudonaja textilis</i>	2
Little Whip Snake	<i>Parasuta flagellum</i>	1

Table 4. List of amphibians and numbers recorded during surveys.

Common Name	Scientific Name	Number
Southern Brown Tree Frog	<i>Litoria ewingii</i>	6
Common Froglet	<i>Crinia signifera</i>	3
Southern Bullfrog	<i>Limnodynastes dumerilii</i>	7

**Fig. 2.** Little Whip Snake *Parasuta flagellum*. Photo by Stuart Dashper.

Table 5. List of birds and numbers recorded during surveys. E = estimated numbers; * indicates introduced species.

Common Name	Scientific Name	Number
Emu	<i>Dromaius novaehollandiae</i>	1
Brown Goshawk	<i>Accipiter fasciatus</i>	3
Wedge-tailed Eagle	<i>Aquila audax</i>	8
Australian Kestrel	<i>Falco cenchroides</i>	1
Common Bronzewing	<i>Phaps chalcoptera</i>	5
Yellow-tailed Black-Cockatoo	<i>Calyptorhynchus fuscus</i>	60E
Gang-gang Cockatoo	<i>Callocephalon fimbriatum</i>	100E
Long-billed Corella	<i>Cacatua tenuirostris</i>	1
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	20E
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	10E
Musk Lorikeet	<i>Glossopsitta concinna</i>	20E
Little Lorikeet	<i>Glossopsitta pusilla</i>	2
Crimson Rosella	<i>Platycercus elegans</i>	40E
Blue-winged Parrot	<i>Neophema chrysostoma</i>	2
Pallid Cuckoo	<i>Cuculus pallidus</i>	2
Fan-tailed Cuckoo	<i>Cuculus flabelliformis</i>	3
Powerful Owl	<i>Ninox strenua</i>	2
Southern Boobook	<i>Ninox novaeseelandiae</i>	4
Tawny Frogmouth	<i>Podargus strigoides</i>	1
Australian Owllet-nightjar	<i>Aegotheles cristatus</i>	1
Azure Kingfisher	<i>Alcedo azurea</i>	1
Laughing Kookaburra	<i>Dacelo novaeguineae</i>	12
Sacred Kingfisher	<i>Halcyon sancta</i>	2
Welecome Swallow	<i>Hirundo neoxena</i>	6
Tree Martin	<i>Hirundo nigricans</i>	15E
Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	3
White's Thrush	<i>Zoothera dauma</i>	1
Blackbird *	<i>Turdus merula</i>	2
Scarlet Robin	<i>Petroica multicolor</i>	3
Eastern Yellow Robin	<i>Eopsaltria australis</i>	20E
Crested Shrike-tit	<i>Falcunculus frontatus</i>	1
Golden Whistler	<i>Pachycephala pectoralis</i>	15
Rufous Whistler	<i>Pachycephala rufiventris</i>	10
Grey Shrike-thrush	<i>Colluricincla harmonica</i>	12
Leaden Flycatcher	<i>Myiagra rubecula</i>	1
Restless Flycatcher	<i>Myiagra inquieta</i>	1
Grey Fantail	<i>Rhipidura fuliginosa</i>	40E
Willie Wagtail	<i>Rhipidura leucophrys</i>	2
Superb Fairy-wren	<i>Malurus cyaneus</i>	40E
Southern Emu-wren	<i>Stipiturus malachurus</i>	12
White-browed Serubwren	<i>Sericornis frontalis</i>	40E
Weebill	<i>Smicronis brevirostris</i>	2
Brown Thornbill	<i>Acanthiza pusilla</i>	40E
Striated Thornbill	<i>Acanthiza lineata</i>	1
White-throated Treecreeper	<i>Cormobates leucophaea</i>	15E
Red Wattlebird	<i>Anthochaera carunculata</i>	15E
Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>	2
White-eared Honeyeater	<i>Lichenostomus leucotis</i>	3
White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>	1
Brown-headed Honeyeater	<i>Meliphreptus brevirostris</i>	4
White-naped Honeyeater	<i>Meliphreptus lunatus</i>	30E
Creseent Honeyeater	<i>Phylidonyris pyrrhoptera</i>	7
New Holland Honeyeater	<i>Phylidonyris novaehollandiae</i>	50E
Eastern Spinebill	<i>Acanthorhynchus tenuirostris</i>	9
Spotted Pardalote	<i>Pardalotus punctatus</i>	10E
Striated Pardalote	<i>Pardalotus striatus</i>	3
Silvereye	<i>Zosterops lateralis</i>	4
Red-browed Firetail	<i>Neochmia temporalis</i>	20E
Dusky Woodswallow	<i>Artamus cyanopterus</i>	5
Australian Magpie	<i>Gymnorhina tibicen</i>	1

Table 5 cont'd.

Common Name	Scientific Name	Number
Pied Currawong	<i>Strepera graculina</i>	7
Grey Currawong	<i>Strepera versicolor</i>	4
Australian Raven	<i>Corvus coronoides</i>	7
Forest Raven	<i>Corvus tasmanicus</i>	3

Colluricincla harmonica, Rufous Whistler *Pachycephala rufiventris*, Restless Flycatcher *Myiagra inquieta* and Gang-gang Cockatoo *Callocephalon fimbriatum*. Several woodland birds that are in decline nationally (Barrett *et al.* 2003) were recorded, including Scarlet Robin *Petroica multicolor* (Sand Heathland), Crested Shrike-tit *Falcunculus frontatus* (Heathy Woodland) and Dusky Woodswallow *Artamus cyanopterus* (Wet Heathland and Heathy Woodland). One species often difficult to detect in the Grampians, the Southern Emu-wren *Stipiturus malachurus*, was recorded in Sand Heathland in the Victoria Valley.

Discussion

The Smoky Mouse is known from a number of sites in south east New South Wales, coastal east Gippsland, Victoria's eastern highlands, the Otway Ranges and the Grampians (Menkhorst 2001). In the Grampians the species is known from a number of locations (Atlas of Victorian Wildlife) and has been the subject of intensive population studies on Mt William (Cockburn 1981a, 1981b). The Smoky Mouse is listed as endangered under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* and it is listed as a threatened species under the Victorian *Flora and Fauna Guarantee Act 1988*. Records exist from a range of vegetation communities, including coastal heath, sub-alpine heath, dry forest and occasionally fern gullies in wet forest (Menkhorst 1995). There is, however, evidence that some records from wet gullies may represent dispersing animals rather than resident populations (Menkhorst and Broome 2003). A key component of all sites, except wet gullies, is the predominance of shrubs from the Heath family (Epacridaceae) and Pea family (Fabaceae) (Menkhorst and Seebeck 1981). Smoky Mouse has been recorded from fern gullies

in the Grampians near Silverband Falls between October 1962 and June 1971 (Atlas of Victorian Wildlife) and in the Victoria Range in October 1974 (Atlas of Victorian Wildlife) and March and April 2002 (Menkhorst and Homan unpubl. data). Trapping rates for the species are usually low. However, in the Grampians high rates have been achieved at two sites: on Mt William rates as high as 12% have been recorded (Cockburn 1981a, 1981b) and in a fern gully in the Victoria Range a rate of 19% was achieved over several nights in March and April 2002 (Menkhorst and Homan unpubl. data).

In December 2003 and March 2004 the FSG trapped in the fern gully in the Victoria Range mentioned above. On both occasions Smoky Mouse was recorded at trapping rates of 6% and 5.5% respectively. Vegetation at this site consists of an overstorey of Brown Stringybark *Eucalyptus baxteri* and some Mountain Grey Gum *Eucalyptus cypellocarpa*, with a sparse understorey of Blackwood *Acacia melanoxylon*. There are numerous Rough Tree-fern *Cyathea australis* and many fallen logs amongst a tangle of Forest Wiregrass *Tetrarrhena juncea* and Austral Bracken *Pteridium esculentum*. The records obtained from this site in 2003 and 2004, together with the records of 1974 and 2002, strongly suggest that the population of Smoky Mouse in this wet gully is permanent. It is probable that the species uses the very thick cover provided in this gully for nesting sites and shelter and moves out onto surrounding slopes for feeding, where, within several hundred metres, there is a predominance of shrubs such as Rough Bush-pea *Pultenaea scabra*.

Also in March 2004, 60 Elliott traps were set over two nights in and beside a wet gully approximately two km north-east of the fern gully mentioned above. No Smoky Mouse were captured on the first night.

However, on the second night four juvenile Smoky Mouse were captured in traps set in Lowland Forest on the very edge of the gully, suggesting that these individuals were dispersing (P Menkhorst pers. comm.). The vegetation and habitat at this site is similar to that at the first gully, except for the absence of tree-ferns and the presence of Victorian Christmas Bush *Prostanthera lasianthos*.

Mt William has been a stronghold for Smoky Mouse in the Grampians (Menkhorst 1995). However, none was captured there during a trapping session involving 284 trap-nights by the FSG in March 2005. In March 2002, Menkhorst and Homan (unpubl. data) captured only one Smoky Mouse near the summit of Mt William from 500 trap-nights. Furthermore, the species was not recorded at Silverband Falls during trapping surveys in March 2002 (Menkhorst and Homan unpubl. data) and in September 2005 (RMIT University unpubl. data). With the apparent decline of Smoky Mouse populations on Mt William and at Silverband Falls, along with the wildfires of 2005/2006 that burnt a significant proportion of the Grampians, it now appears that the Victoria Range supports an important population of Smoky Mouse in the Grampians National Park.

The Heath Mouse has been recorded at many locations throughout the Grampians National Park (Seebeck 1976; Emison *et al.* 1978; Meulman and Klomp 1999), especially in areas of dry heath or heathy woodland. Capture rates for the species during recent surveys have been low. In March and April 2002, Menkhorst and Homan (unpubl. data) achieved capture rates of 0.2% near the summit of Mt William, 1.3% in the Wannon Valley and 1.3% at Mirranatwa Gap in the Serra Range. During surveys by the FSG trapping rates were 1% in Sand Heathland in the Victoria Valley in December 2003, 2.3% in Sand Heathland in the southern Wannon Valley in March 2006 and 0.6% in Heathy Woodland in the far southern Victoria Valley in March 2007. However, in Sand Heathland in the Victoria Valley in March 2004, a trapping rate of 7.5% was achieved.

The Southern Brown Bandicoot is widespread and not uncommon in the

Grampians (Menkhorst 1995). Trapping rates can be low, and in surveys conducted by Parks Victoria in the spring of each year between 2003 and 2006, the species was recorded in very low numbers (M Stevens pers. comm.). In other parts of Victoria capture rates for Southern Brown Bandicoots can vary significantly. In Wimmera Grassy Woodland infested with Gorse *Ulex europaeus* in the Black Range near Stawell, the FSG achieved a capture rate of 8.6% between 2000 and 2002 (Homan 2005). However, a survey in April 2007, in Coastal Heathland at Wonthaggi, produced a rate of only 0.5% (Homan 2007). During the FSG Grampians surveys trapping rates were also low with 1% in Sand Heathland in the Victoria Valley in 2003 and 0.6% in Sand Heathland and Wet Heathland in the southern Wannon Valley in March 2006. The Southern Brown Bandicoot has high fecundity and high juvenile dispersal rates and is easily able to colonise suitable habitat as it becomes available (Menkhorst 1995). Large areas of good quality bandicoot habitat escaped the fires of 2005/2006, and the remaining population of Southern Brown Bandicoots in these areas should expand significantly, as young dispersing bandicoots colonise the regenerating vegetation.

There was a major decline in the numbers of insectivorous bats captured in harp traps following the wildfires of 2005/2006. In March 2005, prior to the fires, 11 harp trap-nights were completed in Heathy Woodland in the Wannon Valley, resulting in the capture of 168 insectivorous bats of eight species. In March 2006, 13 harp trap-nights were completed at the same site as the previous year, on the edge of the unburnt portion of the park, but only 28 bats were caught, comprising the same species. Capture rates varied significantly, with Chocolate Wattleed Bat *Chalinolobus morio*, declining from 42% of total bats caught in 2005 to only 3.6% in 2006. Large Forest Bat *Vespadelus darlingtoni* and Little Forest Bat *Vespadelus vulturinus*, however, increased from 3% to 25% and 18% to 32% respectively. The capture rate for the rarer Eastern False Pipistrelle remained constant at 3.6% of total bats caught. The severe drought that has persisted over much of western Victoria has

almost certainly had a detrimental effect on bat populations, but it appears that the extensive and devastating fires have also contributed to a major decline in the population of insectivorous bats in the Grampians.

Previous records exist for the Powerful Owl in the Grampians, but the drier inland western woodlands and forests are not a stronghold for the species (Emison *et al.* 1987). In particular, most breeding records are from coastal and foothill forests, so the chance sighting of a juvenile Powerful Owl on a road in the Victoria Valley is noteworthy. It is highly probable that this bird was dispersing (no adults were seen or heard nearby) and considering the vast size of the Grampians Range, it is fair to conclude that this young bird was the product of a breeding pair of Powerful Owls in the Grampians National Park.

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One Hundred Years Ago

WILD LIFE OF THE MURRAY SWAMPS

by A.H.E. Mattingley, C.Z.M.S.

A Reed-Warbler sang gaily to its mate, and its notes were welcome music to the tired-out ornithologists. The antithesis of a good thing is usually close at hand, so here was a Grass-bird, *Megalurus gramineus*, in the same patch of reeds, uttering its mournful note. What freak of evolution could cause a bird somewhat similar in size, colour, and nesting habits to produce notes with such a contrast.

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